

Amendment

09/341,109

IN THE CLAIMS

1-137 Cancelled

138. (Currently Amended) ~~Method~~ A method for controlling or regulating a motor vehicle, wherein

an absolute speed of the motor vehicle as well as additional motor vehicle state variables and one or more external variable are determined, comprising the following steps:

simultaneously determining several intermediate acceleration values for the motor vehicle from the determined motor vehicle state variables and external variable,

determining a nominal longitudinal acceleration based on the determined intermediate acceleration values, and

controlling the motor vehicle actuators based on the determined nominal longitudinal acceleration.

139. (Currently Amended) ~~Method~~ A method according to Claim 138, wherein the nominal longitudinal acceleration is determined by selecting the smallest value from the intermediate acceleration values.

140. (Currently Amended) ~~Method~~ A method according to Claim 138, wherein the nominal longitudinal acceleration is determined by forming a weighted average of the intermediate longitudinal acceleration values.

141. (Currently Amended) ~~Method~~ A method according to Claim 140, wherein the weighting of the acceleration values is changed based on the determined motor

Amendment

09/341,109

vehicle state variables.

142. (Currently Amended) ~~Method~~ A method according to Claim 140, wherein the temporal changes of the weightings are smoothed out by means of predetermined time functions.

143. (Currently Amended) ~~Method~~ A method according to claim 138, wherein at least one intermediate acceleration value is generated based on the pedal positions.

144. (Currently Amended) ~~Method~~ A method according to claim 138, wherein one intermediate acceleration value is generated based on a cruise control adjustment.

145. (Currently Amended) ~~Method~~ A method according to claim 138, wherein one intermediate acceleration value is generated by a motor vehicle follower control.

146. (Currently Amended) ~~Method~~ A method according to claim 138, wherein sensors and/or acceleration controllers are monitored by a monitoring computer, wherein warning signals are output if a malfunction is detected.

147. (Currently Amended) ~~Device~~ A device for controlling or regulating a motor vehicle, comprising:

one or more devices for determining ~~the~~ an absolute speed of the motor vehicle as well as additional motor vehicle state variables and one or more external variable,

one or more devices for simultaneously determining several intermediate

Amendment

09/341,109

acceleration values based on the determined motor vehicle state variables and external variables.

a coordination device for determining a total nominal longitudinal acceleration from the intermediate acceleration values, and

an acceleration controller that actuates the motor vehicle actuators based on the total nominal longitudinal acceleration.

148. (Currently Amended) ~~Device~~ A device according to Claim 147, wherein the coordination device selects the smallest acceleration value of the acceleration values input into the coordination device as the nominal longitudinal acceleration.

149. (Currently Amended) ~~Device~~ A device according to Claim 147, wherein the coordination device forms a weighted average of the intermediate acceleration values input into the coordination device and outputs this weighted average in the form of the nominal longitudinal acceleration.

150. (Currently Amended) ~~Device~~ A device according to Claim 149, wherein the coordination device is designed for changing the weighting of the intermediate acceleration values based on the determined state variables.

151. (Currently Amended) ~~Device~~ A device according to one of Claim 147, further including a device which generates a first intermediate acceleration value based on the pedal positions adjusted by the driver.

152. (Currently Amended) ~~Device~~ A device according to one of Claim 147,

Amendment

09/341,109

further including a cruise control device which generates one additional intermediate acceleration value based on commands input by means of switches.

153. (Currently Amended) ~~Device~~ A device according to Claim 151, further including a motor vehicle follower control which generates an additional intermediate acceleration value based on the signals of a distance sensor.

154. (Currently Amended) ~~Device~~ A device according to Claim 147, further including a memory for time functions in order to smooth out the temporal changes of the weightings.

155. (Currently Amended) ~~Device~~ A device according Claim 147, further including a monitoring computer that detects a malfunction of individual sensors and/or acceleration controllers and outputs corresponding warning signals.

156. (Currently Amended) ~~Method~~ A method according to Claim 138, further including the steps of:

determining a signal that characterizes the a brake pressure of the motor vehicle,

outputting a first signal that corresponds to torque as a function of at least one of braking torque and/or drive torque and the absolute speed by a monitor,

processing the first signal as well as a second signal that corresponds to the nominal motor vehicle torque into a third signal that corresponds to a deceleration output torque and a fourth signal that corresponds to an acceleration output torque, and

converting the third signal and the fourth signal into motor vehicle control signals for the acceleration and for the deceleration.

Amendment

09/341,109

157. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the motor vehicle control signal for the acceleration is a fuel supply signal.

158. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the motor vehicle control signal for the acceleration is a nominal engine torque.

159. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the motor vehicle control signal for the deceleration is a nominal brake pressure.

160. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the motor vehicle control signal for the deceleration is an electric brake-by-wire signal that corresponds to a brake force.

161. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the first signal corresponds to a correction signal for the second signal.

162. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the first signal corresponds to torque that acts on the motor vehicle.

163. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the drive torque is determined with the aid of an engine/transmission model which receives the motor vehicle speed, the engine speed, the throttle opening angle as well as the transmission gear ratio as input variables.

Amendment

09/341,109

164. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the drive torque is determined with the aid of a transmission model that receives the nominal engine torque from an electronic engine control as well as the transmission gear ratio as input variables.

165. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the braking torque is determined with the aid of a brake model that receives the pressure for actuating the brake as the input variable.

166. (Currently Amended) ~~Method~~ A method according to Claim 156, wherein the nominal motor vehicle torque is determined from the nominal motor vehicle acceleration by means of prefiltering based on the motor vehicle mass and the wheel radius.

167. (Currently Amended) ~~Method~~ A method according to Claim 163, wherein the estimated speed of the motor vehicle is determined from the braking torque and the drive torque based on the wheel radius and the motor vehicle mass.

168. (Currently Amended) ~~Device~~ A device according to Claim 147, further including:

a device for determining a signal that characterizes ~~the~~ a brake pressure of the motor vehicle,

an output device for outputting a first signal,

a computation device for generating a third signal that corresponds to a

Amendment

09/341,109

deceleration output torque,

a fourth signal that corresponds to an acceleration output torque from the first signal and from a second signal that corresponds to the nominal motor vehicle torque, and

a converting device for generating a motor vehicle control signal for the acceleration and the deceleration from the third and fourth signals, respectively.

169. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a motor vehicle control signal for the acceleration in the form of a fuel supply signal.

170. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a motor vehicle control signal for the acceleration in the form of a nominal engine torque.

171. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a motor vehicle control signal for the deceleration in the form of a nominal brake pressure signal.

172. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a motor vehicle control signal for the deceleration in the form of an electric brake-by-wire signal.

173. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a correction signal that serves for correcting the

Amendment

09/341,109

second signal in the computation device.

174. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a correction signal that serves for correcting the second signal in the computation device .

175. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a device for outputting a signal that corresponds to the torque and serves as the input variable for adjusting the second signal in the computation device.

176. (Currently Amended) ~~Device~~ A device according to Claim 168, further including an engine/transmission model that receives the motor vehicle speed, the engine speed, the throttle opening angle and the transmission gear ratio as input variables and that determines the drive torque thereof.

177. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a transmission model that receives the nominal engine torque from an electronic engine controller as well as the transmission gear ratio as input variables and determines the drive torque thereof.

178. (Currently Amended) ~~Device~~ A device according to Claim 168, further including a brake model that receives the pressure for actuating the brake as the input variable and determines the braking torque thereof.

179. (Currently Amended) ~~Device~~ A device according to Claim 168, further

Amendment

09/341,109

including a prefilter that determines the nominal motor vehicle torque from the nominal longitudinal acceleration based on the motor vehicle mass and the wheel radius.

180. (Withdrawn) Method according to Claim 138, further including the steps of:

determining the distance between one motor vehicle and the vehicle driving ahead and the relative speed of the second vehicle, and

generating a predetermined nominal values for controlling the second motor vehicle based on the determined distance and relative speed, wherein, if a deceleration of the first vehicle driving ahead of the second vehicle is detected, an intermediate acceleration value for the second motor vehicle is output, and by the fact that the speed of the first vehicle is not fallen short of or fallen short of only after a predetermined time after the beginning of the deceleration of the first vehicle has ended or fallen short of after the second motor vehicle assumes a constantly slower speed than the first vehicle driving ahead of the second vehicle.

181. (Withdrawn) Method according to Claim 138, further including the steps of:

determining the distance to the vehicle driving ahead of the second motor vehicle, and

generating predetermined nominal values for controlling the second motor vehicle based on the determined distance and relative speed, wherein if a deceleration of the first vehicle driving ahead of the second motor vehicle is detected, an intermediate acceleration value is output such that the predetermined distances is adjusted to be shorter than the distances predetermined for the steady-state condition for a predetermined time, wherein the predetermined time depends on the distance.

182. (Withdrawn) Method according to Claim 181, wherein a shorter distance to

Amendment

09/341,109

the first vehicle driving ahead of the second motor vehicle is also predetermined for the second motor vehicle for a certain time when the first vehicle driving ahead of the second motor vehicle reaches a steady-state speed after completing its deceleration.

183. (Withdrawn) Method according to Claim 180, wherein after the deceleration of the first vehicle driving ahead of the second motor vehicle begins, the distance to this vehicle is monitored, wherein the second motor vehicle is increasingly decelerated if a certain nominal distance or a nominal distance that can be determined is fallen short of.

184. (Withdrawn) Device according to Claim 147, for realizing a motor vehicle follower controller, further including:

a distance sensor for determining the separation between and the relative speed of the second motor vehicle and first vehicle driving ahead of the second motor vehicle,

a speed sensor for determining the speed of the second motor vehicle,

a controller for generating and adjusting nominal values for the motor vehicle controller based on the values delivered by the sensors, characterized by the fact that the controller contains,

a device for recognizing a deceleration of the first vehicle driving ahead of the second motor vehicle, and

a device for predetermining the intermediate acceleration values of the second motor vehicle in such a way that the speed of the first vehicle driving ahead of the second motor vehicle is not fallen short of or is only fallen short of after a predetermined time after the beginning of the deceleration of the first vehicle driving ahead of the second motor vehicle has passed or is fallen short of after assuming a constantly slower speed than the first vehicle driving ahead of the second motor vehicle.

Amendment

09/341,109

185. (Withdrawn) Device for realizing a motor vehicle follower controller, according to Claim 147, further including:

a distance sensor for determining the separation between and the relative speed of the second motor vehicle and a first vehicle driving ahead of the second motor vehicle,

a speed sensor for determining the speed of the motor vehicle, and

a controller for generating and adjusting nominal values for the motor vehicle controller based on the values delivered by the sensors, wherein the controller contains,

a device for recognizing a deceleration of the first vehicle driving ahead of the second motor vehicle, and

a device for generating predetermined distances between the second motor vehicle and the first vehicle driving ahead of the second motor vehicle in such a way that the predetermined distances can be adjusted to be shorter than the distances predetermined for steady-state conditions for a predetermined time, wherein the predetermined time depends on the distance.

186. (Withdrawn) Device according to Claim 185, wherein the device for generating predetermined distances also predetermines a shorter distance for a certain time if the first vehicle driving ahead of the second motor vehicle has reached a stopped state.

187. (Withdrawn) Device according to Claim 184, wherein the controller comprises a device for monitoring the distance to the first vehicle driving ahead of the second motor vehicle, wherein said device outputs control signals for increasingly decelerating the second motor vehicle if a certain nominal distance or a nominal distance that can be determined is fallen short of.

Amendment

09/341,109

188. (Withdrawn) Method according to Claim 138, for generating a speed signal that indicates a motor vehicle speed, further including the step of:

an unprocessed speed signal by using low-pass filtering or band-stop filtering of the unprocessed speed signal.

189. (Withdrawn) Method for generating a speed signal that indicates a motor vehicle speed according to Claim 188, further including the step of:

generating an unprocessed speed signal by using band-stop filtering of the unprocessed speed signal that was subjected to a low-pass filtering or low-pass filtering of the unprocessed speed signal that was subjected to band-stop filtering.

190. (Withdrawn) Method according to Claim 188, wherein filtering includes filtering with a single-pole low-pass.

191. (Withdrawn) Method according to Claim 190, further including a gradient limitation in the low-pass filter.

192. (Withdrawn) Method according to Claim 188, wherein the filter characteristic of the low-pass filter is modified on the basis of the motor vehicle acceleration or a corresponding signal.

193. (Withdrawn) Method according to Claim 189, wherein the band-limited interference frequency is simulated and subtracted from the non-band-filtered signal.

Amendment

09/341,109

194. (Withdrawn) Method according to Claim 193, wherein the signal obtained after the subtraction is fed back into the simulation of the interference's frequency band.

195. (Withdrawn) Method according to Claim 189, wherein the band elimination covers a frequency range of approximately 1-4 Hz.

196. (Withdrawn) Method according to Claim 188, wherein the frequencies of 8 Hz and above are filtered out by the low-pass filter.

197. (Withdrawn) Device according to Claim 147, for generating a speed signal that indicates motor vehicle speed, with a device for generating an unprocessed speed signal, further including a low-pass filter a band-stop filter for filtering the unprocessed speed signal.

198. (Withdrawn) Device for generating a speed signal that indicates a motor vehicle speed according to Claim 197, with a device for generating an unprocessed speed signal, further including, a band-stop filter for filtering the unprocessed speed signal or the low-pass-filtered unprocessed speed signal.

199. (Withdrawn) Device according to Claim 197, wherein said low-pass filter includes a single-pole.

200. (Withdrawn) Device according to Claim 199, wherein said low-pass filter

Amendment

09/341,109

includes a gradient limitation.

201. (Withdrawn) Device according to one of Claim 197, further including a device for modifying the filter characteristic of the low-pass filter based on the motor vehicle acceleration or a corresponding signal.

202. (Withdrawn) Device according to Claim 198, further including a device for simulating the interference frequency band to be filtered out by the band-stop filter, and by a device for subtracting the simulated signal from the input signal.

203. (Withdrawn) Device according to Claim 202, further including devices for feeding back the output signal into the device for simulating the interference frequency band.

204. (Withdrawn) Device according to Claim 198, wherein the band-stop filter covers a frequency range of approximately 1-4 Hz.

205. (Withdrawn) Device according to Claim 197, wherein the low-pass filter filters out frequencies of 8 Hz and higher.

206. (Withdrawn) Method for realizing a motor vehicle control according to Claim 138, by low-pass filtering of the nominal speed signal.

207. (Withdrawn) Method for realizing a motor vehicle control according to Claim

Amendment

09/341,109

206, wherein a nominal speed signal is determined by limiting the gradient of the nominal speed signal.

208. (Withdrawn) Method for realizing a motor vehicle control according to Claim 206, wherein a nominal speed signal is determined, by forming the difference between the nominal speed signal and the actual speed, and by determining the intermediate acceleration value based on the difference.

209. (Withdrawn) Method for realizing a motor vehicle control according to claim 206, wherein a nominal speed signal is determined by determining an intermediate acceleration value and by adding a nominal acceleration value to a feed-forward portion that is determined on the basis of the nominal speed signal.

210. (Withdrawn) Method according to claim 206, wherein the duration of acceleration, the acceleration value and the acceleration frequency, are observed and used for modifying the low-pass filter characteristics, the gradient limitation, the nominal acceleration characteristic or the feed-forward characteristic in learning fashion.

211. (Withdrawn) Method according to claim 206, wherein the said single-pole low-pass filtering further includes amplification, integration, and negative feedback.

212. (Withdrawn) Method according to Claim 211, wherein the amplification is limited in order to realize the gradient limitation.

213. (Withdrawn) Method according to Claim 208, wherein the intermediate

Amendment

09/341,109

acceleration value is determined based on the difference between the low-pass filtered predetermined nominal speed and the actual speed of the motor vehicle.

214. (Withdrawn) Method according to Claim 209, wherein the feed-forward portion is determined on the basis of the amplified signal present in the low-pass filter and added to the intermediate acceleration value.

215. (Withdrawn) Method according to Claim 208, wherein the intermediate acceleration value is limited to predetermined values, wherein the limitations may be changed depending on the given situation.

216. (Withdrawn) Method for realizing a motor vehicle control according to Claim 147, further including a device for determining a nominal speed signal, characterized by a low-pass filter for the nominal speed signal.

217. (Withdrawn) Device for realizing a motor vehicle control according to Claim 216, further including a device for determining a nominal speed signal, characterized by a device for limiting the gradient of the nominal speed signal.

218. (Withdrawn) Device for realizing a motor vehicle control according to Claim 216, further including a device for determining a nominal speed signal, characterized by a device for determining a nominal speed signal characterized by a device for forming the difference between the nominal speed signal and the actual speed and by a device for determining an intermediate acceleration value base on the difference.

Amendment

09/341,109

219. (Withdrawn) Device for realizing a motor vehicle control according to Claim 216, further including a device for determining a nominal speed signal, characterized by a device for determining an intermediate acceleration value, by a device for determining a feed-forward portion as a function of the nominal speed signal, and by a device for adding the intermediate acceleration value and the feed-forward portion.

220. (Withdrawn) Device according to one Claim 216, further including a device that observes the duration of acceleration, the acceleration value and the acceleration frequency, wherein said device utilizes the driver's activities for modifying the low-pass filter characteristics, the gradient limitation, the nominal acceleration characteristic or the feed-forward characteristic in learning fashion.

221. (Withdrawn) Device according to Claim 216, further including a single-pole low-pass filter which consists of amplification, integration and negative feedback.

222. (Withdrawn) Device according to Claim 221, wherein the amplification is limited in order to realize the gradient limitation.

223. (Withdrawn) Device according to Claim 218, wherein the intermediate acceleration value is determined based on the difference between the low-pass filtered predetermined nominal speed and the actual speed of the motor vehicle.

224. (Withdrawn) Device according to Claim 219, wherein the device for generating the feed-forward portion senses the signal at the amplification output, and by the fact that the feed-forward portion is added to the output signal of the device.

Amendment

09/341,109

225. (Withdrawn) Device according to Claim 218, further including a device for limiting the intermediate acceleration value, where the limiting values of the device may be changed.

226. (Withdrawn) Method according to Claim 138, for generating a nominal brake pressure, further including the steps of:

measuring a brake pressure, and

outputting a pressure build-up signal and a pressure reduction signal to means for adjusting the nominal brake pressure.

227. (Withdrawn) Method according to Claim 226, further including:

determining a nominal volumetric flow from the nominal brake pressure and an actual pressure that corresponds to a pressure measured on at least one brake cylinder.

228. (Withdrawn) Method according to Claim 227, further including determining the actual pressure pact from a hydraulic impedance and the measured pressure.

229. (Withdrawn) Method according to Claim 227, further including determining the pressure build-up signal and the pressure reduction signal from the nominal volumetric flow and an actual volumetric flow corresponds to the measured pressure.

230. (Withdrawn) Method according to Claim 229, further including determining

Amendment

09/341,109

the pressure build-up signal and the pressure reduction signal from the nominal volumetric flow, an actual volumetric flow that corresponds to the measured pressure and the time derivative of the actual volumetric flow.

231. (Withdrawn) Method according to one of Claim 227, further including determining the actual volumetric flow from the hydraulic impedance and a difference u between the measured pressure and the actual pressure.

232. (Withdrawn) Method according to one of Claim 226, characterized by the fact that the pressure build-up signal and the pressure reduction signal are complementary.

233. (Withdrawn) Control device according to Claim 147, for generating a nominal brake pressure wherein, said control device contains a device for determining a nominal brake pressure and means for adjusting the brake pressure, including an output device for outputting a pressure build-up signal and a pressure reduction signal for the means for adjusting the brake pressure, wherein the pressure build-up signal and the pressure reduction signal are chosen such that a nominal brake pressure is reached.

234. (Withdrawn) Control device according to Claim 233, further including a pressure control device with a pressure controller and a pressure monitor for determining a nominal volumetric flow from the nominal brake pressure and an actual pressure on a brake cylinder which corresponds to a measured pressure.

235. (Withdrawn) Control device according to Claim 234, wherein the pressure

Amendment

09/341,109

monitor and/or the volumetric flow monitor contain a multiplication element, an integrator, and a characteristic element.

236. (Withdrawn) Control device according to Claim 234, wherein the pressure monitor and/or the volumetric flow monitor contain a first proportional element, an integrator, and a second proportional element.

237. (Withdrawn) Control device according to one of Claim 234, further including a volumetric flow controller for converting the pressure build-up signal and the pressure reduction signal into control signals for the means, and by a volumetric flow monitor for determining an actual volumetric flow that corresponds to the measured pressure and is subjected to a negative feedback to the nominal volumetric flow between the pressure control device and the hydraulic.

238. (Withdrawn) Control device according to Claim 237, wherein the volumetric flow monitor consists of a DT₁-element, and wherein the volumetric flow controller contains a third subtractor for subtracting the output signal of the volumetric flow monitor from the output signal of the pressure control, a fourth subtractor element for subtracting the output signal of the volumetric flow monitor from the output signal of the pressure control in order to generate an intermediate signal, and a second and third characteristic element for generating a control signal for the means for adjusting the brake pressure.

239. (Withdrawn) Control device according to Claim 238, wherein the volumetric flow controller contains a first and a second DT₁-element, at the respective inputs of which the output signal of the volumetric flow monitor is present, where the respective outputs of the two DT₁-elements are subtracted from the respective outputs of the third

Amendment

09/341,109

and fourth subtractors.

240. (Withdrawn) Control device according to Claim 233, wherein the means for adjusting the brake pressure contain a valve that is closed in the deenergized state or a pressure generator.

241. (Withdrawn) Control device according to Claim 233, wherein the means for adjusting the brake pressure contain a valve that is open in the deenergized state and/or a pressure generator.

242. (Withdrawn) Method according to Claim 138, for realizing a transition of a longitudinal motor vehicle movement from a first driving condition into a second driving condition with few jerks, including the steps of:

determining a first motor vehicle condition by outputting a nominal longitudinal acceleration for reaching a nominal condition with a nominal distance, a nominal relative speed and a nominal relative acceleration from an actual condition with a distance, an absolute speed and an absolute acceleration within a predetermined time interval in the form of a time-dependent acceleration function, the integral of which is a minimum as a function of the square of its time derivative under the boundary condition that the beginning condition and the end condition are defined.

243. (Withdrawn) Method according to Claim 242, wherein the acceleration function is selected from several functions that were previously stored in a memory.

244. (Withdrawn) Method according to Claim 243, wherein the stored functions

Amendment

09/341,109

contain at least one function that depends on the square of the time.

245. (Withdrawn) Method according to Claim 243, wherein the stored functions contain at least one function that depends on the cube of the time.

246. (Withdrawn) Method according to Claim 243, wherein the stored functions contain at least one function that depends exponentially on time.

247. (Withdrawn) Method according to one of Claim 243, wherein the stored acceleration functions depend on the predetermined transition time for reaching the nominal condition and/or on the nominal separation and/or on the instantaneous absolute speed and/or on the instantaneous acceleration and/or on the instantaneous relative speed and/or on the instantaneous relative acceleration in parametric fashion.

248. (Withdrawn) Method according to one of Claim 242, wherein the predetermined time interval is a function that depends on the nominal speed and/or the nominal separation and/or the absolute speed and/or the distance.

249. (Withdrawn) Control device according to Claim 147, further including:

realizing a transition of a longitudinal motor vehicle movement from a first driving condition into a second driving condition,

a computation unit,

driving condition sensors for determining predetermined variables of a first driving condition in the form of input variables for the computation unit, and actuators

Amendment

09/341,109

for converting output variables of the computation unit into control signals for reaching a second driving condition,

a first memory for storing a numerical value,

several function memories for respectively storing at least one function parameter,

a function memory for storing several function parameters,

a differentiating element for differentiating a function,

a squaring element for squaring the differentiated function,

an integrator for integrating the differentiated and squared function, and

a comparator for comparing an output value of the integrator with the numerical value in the memory and for outputting a function.

250. (Withdrawn) Control device according to Claim 249, wherein the several function memories for respectively storing at least one function parameter contain several function memories for respectively storing one function parameter, and a multiplication element for multiplying several functions by one another.

251. (Withdrawn) Method according to Claim 138, further including the steps of:

determining the distance from a first vehicle driving ahead of a second vehicle,
determining the relative speed of the second vehicle to that of the first vehicle driving ahead of the second vehicle,

determining a nominal distance from the vehicle driving in front of the motor vehicle, and

outputting a nominal tracking acceleration for reaching the nominal separation

Amendment

09/341,109

between the first vehicle driving ahead of the second vehicle, wherein the nominal tracking acceleration depends on the distance, the relative speed and the absolute speed.

252. (Withdrawn) Method according to Claim 251, further including determining the nominal tracking acceleration from a first component that linearly depends on the distance, a second component that quasi-linearly depends on the relative speed, and a third component that linearly depends on the absolute speed, wherein at least two of the three proportionality factors depend nonlinearly on the relative speed.

253. (Withdrawn) Method according to Claim 252, wherein the second component of the nominal tracking acceleration is greater than the third component of the nominal tracking acceleration at low relative speeds and/or absolute speeds, wherein this second component is smaller than the third component of the nominal tracking acceleration at high relative speeds and/or absolute speeds.

254. (Withdrawn) Method according to one of Claim 251, wherein the nominal tracking acceleration does not exceed a predetermined limiting value.

255. (Withdrawn) Control device according to Claim 147, further including a distance sensor for determining the distance between a first vehicle driving ahead of a second vehicle, a computation unit for outputting a nominal tracking acceleration that depends on the distance, the relative speed and the absolute speed.

256. (Withdrawn) Control device according to Claim 255, wherein the computation unit contains a damping characteristic element for outputting a first

Amendment

09/341,109

component that depends on the distance, a spring characteristic element for outputting a second component that depends on the relative speed, where both components also depend on the absolute speed, and an adder for adding the first and the second component and for outputting an acceleration value.

257. (Withdrawn) Control device according to Claim 255, wherein the computation unit contains a characteristic diagram for outputting an acceleration value that depends on the distance and on the relative speed, wherein the acceleration value also depends on the absolute speed .

258. (Withdrawn) Control device according to Claim 255, further including a filter for smoothing out and limiting the acceleration value.

259. (Withdrawn) Method according to Claim 138, further including the steps of:

- determining an instantaneous distance from the first driving ahead of the second vehicle,
- determining an absolute speed,
- determining the nominal separation from the absolute speed,
- determining the nominal separation,
- outputting a second nominal separation when the accelerator pedal is actuated,
- and
- adjusting the second nominal separation.

260. (Withdrawn) Method according to Claim 259, wherein the second nominal

Amendment

09/341,109

separation is shortened in comparison to the first nominal distance in accordance with the position of the accelerator pedal.

261. (Withdrawn) Method according to Claim 259, wherein the shortening of the first nominal separation in comparison to the second nominal separation depends nonlinearly on the position of the accelerator pedal.

262. (Withdrawn) Method according to Claim 260, further including outputting an optical and/or acoustical and/or haptical warning signal depending on the magnitude of the second nominal separation.

263. (Withdrawn) Control device according to Claim 147, further including a distance sensor for determining a distance from a first vehicle driving ahead of a second vehicle, and a computation unit for determining the nominal separation from the absolute speed, a control device for adjusting the nominal separation, and a device for outputting the second nominal separation to the control device when the accelerator pedal is actuated.

264. (Withdrawn) Method for controlling or regulating a motor vehicle according to Claim 138, including the steps of:

determining a transverse acceleration of the motor vehicle,

comparing the transverse acceleration with a reference transverse acceleration,
and

outputting a speed correction signal in the form of an intermediate acceleration
value

Amendment

09/341,109

265. (Withdrawn) Method according to Claim 264, wherein the limiting transverse acceleration lies between 2 and 3 m/s².

266. (Withdrawn) Method according to Claim 263, wherein the speed correction signal consists of a signal for changing a nominal cruise control speed.

267. (Withdrawn) Method according to Claim 263, further including determining the transverse acceleration from a yaw rate and the absolute speed of the motor vehicle.

268. (Withdrawn) Method according to Claim 267, wherein the yaw rate is determined from several rotational wheel speeds.

269. (Withdrawn) Method according to Claim 267, wherein the yaw rate is determined from an output signal of a steering wheel position sensor as well as the absolute speed.

270. (Withdrawn) Method according to Claim 267, wherein the yaw rate is determined from an output signal of a yaw rate sensor.

271. (Withdrawn) Control device according to Claim 147, further including means for determining a transverse acceleration of the motor vehicle, and

a comparison device for comparing the transverse acceleration with a reference

Amendment

09/341,109

transverse acceleration, and an output device for outputting a speed correction signal in the form of an intermediate acceleration value.

272. (Withdrawn) Control device according to Claim 271, wherein the means for determining the transverse acceleration contain a yaw rate sensor for determining the yaw rate of the motor vehicle.

273. (Withdrawn) Control device according to Claim 271, wherein the means for determining the transverse acceleration contain rotational speed sensors assigned to the wheels.

274. (Withdrawn) Control device according to Claim 271, wherein the means for determining the transverse acceleration contain a steering wheel position sensor.